

M.A.P.S. *Digest*

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A LOVE OF FOSSILS BRINGS US TOGETHER

MARK YOUR CALENDARS**August 19 – 21****St. Louis Show at Queeny Park
Dealers, swap, exhibits.****WF/AFMS awards banquet on
Saturday night.****Field trips – fossils, barite, granite****Check the official website for additional
information
convention.stlearthsci.org****September 16 - 18**

**The Tyrannosaur symposium titled
*The Origin, Systematics and
Paleobiology of Tyrannosauridae* will
be held at the Clock Tower Inn the
weekend of September 16-18th. It is
being hosted by Burpee Museum of
Natural History in conjunction with
Northern Illinois University. 30
paleontologists (including Philip
Currie, Bob Bakker, Thomas Holtz,
Thomas Carr, Peter Larson, Greg
Erickson and many more) are
scheduled to present their research in
the form of a 20 minute talk. The
proceedings will be later published in
a volume**

**DIGEST CONTRIBUTIONS
WANTED**

Articles and other materials of
paleontological interest are needed for
future issues of the Digest. Soft copy in
Microsoft Word is preferred. Please email
materials if possible to either:

fossilnautiloid@aol.com

or

cdcozart@aol.com

ABOUT THE COVER

Photo by C. Cozart

This month's cover photo is of fossil
collecting last fall at a mine reclamation
project near Coal City, IL. Thanks to the
generosity of the landowners, collecting was
open to the public for a period last summer
and fall. Unfortunately, due a number of
incidents caused by a few who chose not to
follow the rules permitting access, the
landowners were forced to close the site.

“Book’em, Danno”**By John A. Catalani**Fossilnautiloid@aol.com

I love books. I have always loved books. Now my daughter, Kristan, loves books--must be genetics. During my grade and high school summer vacations, I spent many hours (when not on the baseball diamond) at the local branch of the city library searching for and reading books on spiders, astronomy, and, of course, fossils. I also collected spiders alive (collecting has always been in my blood)--needless to say, my mother was overjoyed when I switched to collecting fossils. So it was very natural for me, as my fossil collection increased in size and diversity and as my interest in paleontology grew, to begin building a personal library of books and scientific articles on paleontology in general and nautiloids in particular.

Most collectors begin researching fossils with the sole intention of identifying their specimens. They will visit local libraries, city and college if available, in search of books that contain lots of picture of fossils. If they are lucky, their library will contain some of the *Treatise on Invertebrate Paleontology* volumes or the *Index Fossils of North America* (still, in my opinion, the best single reference to identify invertebrate fossils even after all these years). It soon becomes apparent, however, that books cannot possibly contain pictures, illustrations, or descriptions of all fossil species. Even the multi-volume *Treatise*, with each volume limited to a single fossil group, describes only to the generic level. To identify specimens to the species level, a more intensive search is required. The most reliable source to identify species (and, unfortunately, often the most difficult to obtain) are the original descriptions which I find facilitate identification more than drawings or photographs, although it admittedly does take some practice. The list of references at the end of the various *Treatise* volumes usually cites these original taxonomic papers. However, many of these publications are difficult to find since, being the first descriptions, are often found in very old publications and/or in somewhat obscure journals. In either case, they may not be readily available even in university libraries. More specialized libraries, such as the one in the Field Museum in Chicago that I have consulted many times, may be needed to find these publications.

Identification is, of course, essential to our “hobby” but soon just identifying specimens is not enough. Remember, the fossils we are collecting represent once-living animals and plants. Therefore, it is natural to be curious about what we know (and do not know, which often is more than we actually know) about the organisms that are now, millions of years later, specimens in our collections. This is particularly true if you are, along with accumulating an eclectic collection, specializing in one type of organism (crinoids, trilobites, etc.). Basic books, such as the *Treatise* volumes or paleontology texts, can acquaint you with the morphology, general stratigraphic and geographic distribution, and classification (as of the date of publication since classifications change often) of fossil organisms but cannot, of course, keep you up-to-date in the field. Yes, new books (especially on dinosaurs) are always being published but, since they are often technical in nature, are not normally available at your typical local bookstore. Occasionally some with broad appeal can be found at Borders but a university bookstore is more likely to carry such books (assuming you are, with escalating prices, actually interested in purchasing said book). In extreme cases, the book will have to be special ordered as in the case when I needed Peter Ward’s book on *Nautilus*. I find out about newly published technical books from the Geomedia column in the journal *Geotimes* or in newsletters such as the Paleontological Society’s *Priscum* (now on-line) or the Paleontological Research Institution’s *American Paleontologist*.

In order to really stay current (or up-to-speed, as they say) one needs to consult the various professional paleontological journals available at most (but not all, as I found out recently) university libraries or by individual subscription. Periodicals such as *Journal of Paleontology*, *Bulletins of American Paleontology*, *Lethaia*, *Palaios*, *Paleobiology*, and *Palaentology* (the ones I have found to be the most useful) include taxonomic and informational papers on a wide variety of fossil organisms and paleontological subjects. Topics such as morphology, classification, diversity trends, life modes, paleoecology, taphonomy, evolutionary history, geographic distribution, stratigraphic distribution, and, of course, extinction--in other words, something for everyone--about one fossil group or another are often the subject of journal articles. Now obviously your favorite organism or topic will not be covered in each journal in each issue but with perseverance eventually something of interest will become available. Also, as with every human endeavor, opinions expressed in these journal articles are not held or accepted by all. Lively discussions regarding views presented in papers are often printed in the journal that originally published the article in question and give one a glimpse into the scientific process of checks and balances. Such discussions take a counterpoint/point format with the critical discussion presented first and the reply by one or more of the original authors following. I find these discussion/reply segments as informative or more so than the original article since everyone “cuts-to-the-chase” by presenting the facts and conclusions in a concise fashion that is often more clear to the reader

than the original article. One such debate (and the incentive to write a future essay) that fascinates me is the extent to which *Nautilus* can serve as a model for ammonoid biology and behavior.

There are several ways to identify and acquire journal articles on your favorite organism or topic. One is to make use of those reference lists, mentioned above, at the end of books such as the *Treatise* volumes. Unfortunately, of course, these references are all older than the book itself and, while they include excellent background and original taxonomic papers, they cannot present the latest papers available in the professional literature. A much more timely way to find other up-to-date papers is to check the references cited in the most recent journal article that deals with your interest. This process has a snowball effect. You begin with a recent article and look up references cited in this article and are then presented with additional references cited in these new papers. You continue until the reference lists begin to become redundant and no further new articles are listed. After this initial literature search, remaining current is a simple matter of visiting a university library periodically to check current issues of those journals you find most helpful. As with researching collecting localities, the investment of a little time will reward you with current information and opinions to enhance your enjoyment of your favorite fossil or topic--works for me. Now for the caveat. With the recent budget cuts experienced by university libraries a re-evaluation of the journals they subscribe to has resulted in, for at least one of the universities I check, several of my favorite journals being discontinued. This presents one with the challenge of remaining current and your success will depend on the number of technical libraries available to you.

Serendipity can also play a significant role in finding publications, particularly rare or hard to find volumes (which is often the case for those original taxonomic papers I keep mentioning). Besides fossils, I collect antique books, mostly on geologic topics, and therefore visit used and rare bookstores regularly. It was on one such foray that I came across a veritable gold mine of paleontological publications (a Lagerstätten?). The entire library of a former collector (he had also more-or-less specialized in nautiloids--figure the odds on that) had been sold to the bookstore. There, displayed on the shelves in front of me, was the largest collection of publications on nautiloids I had up to that time seen. The paleontological volumes of the Minnesota Geological Survey (dated 1895 and 1897) and the Geological Survey of Wisconsin (dated 1882) as well as the pioneering taxonomic papers of A. F. Foerste published by Denison University were all available for sale--TO ME! These are the publications that contain the original descriptions, photographs, and drawings of the nautiloids that I had been collecting for years. This was my first encounter with these original descriptions (to the species level which is beyond, of course, the scope of the *Treatise* volumes) and allowed me, for the first time, to analyze the specimens in my collection and determine which were published and, more importantly, which were, as far as I could determine, unpublished. It was this chance discovery that changed a casual hobby into a passion. Obviously, used bookstores, especially those near universities, are a good source of out-of-print publications if you are willing to do the search and pay the presently escalating prices (the two Minnesota books, and they are large, cost me \$15 each in 1980 and recently I have seen one at EXPO go for \$135--that was then, this is now).

Another benefit of a private library is that it can save research time--sometimes unexpectedly. Let me explain. I was asked to contribute a range chart of the nautiloids contained in Middle and Upper Ordovician rocks of the Upper Mississippi Valley region for the 1987 meeting of the North-Central section of the Geological Society of America. At the time, Rousseau Flower, the foremost authority on Ordovician nautiloids, was in ill health and was unavailable. Dennis Kolata and Bob Sloan, the conveners of the session, asked me if I could contribute such a chart--but the deadline for contributed papers (all the charts were to be published by the Minnesota Survey for distribution at the meeting) was fast approaching. So, not only was I asked to contribute essentially a professional paper (my first), but I was given only a limited time to do the research, construct the chart, and write explanatory comments--not too much pressure. Without an extensive nautiloid library I would have had to spend a lot of time at various libraries researching published species--time I did not have. As it turned out, to complete the project I needed to consult only one publication (available to me only at the Field Museum) not in my personal library (it is now) and easily met the deadline. My wife, Kathy, and I attended the conference and participated on the field trips--what an experience.

For me, the information gathering process is an essential element in my appreciation of and continued interest in paleontology. Our "hobby" is one that is sustained by knowledge: the more you collect, the more you want to know; the more you know, the more you want to collect. Your personal library of publications on paleontology will add a new dimension of understanding and satisfaction to your collection.

Oh, and the title? I just couldn't resist a play on one of the most famous lines in 1970's television history (and it does fit--sort of). (Reprinted with modifications from *American Paleontologist* August 1996 courtesy of the Paleontological Research Institution. All rights reserved.)

TRILOBITE TREASURES: Arthropods of the Ancient Seas by MAPS Member Joe Kchodl

A new exhibit that was privately designed, funded and built dealing with the amazing trilobite was unveiled at the annual Greater Detroit Gem, Mineral, Fossil and Jewelry show last fall. The exhibit is available for bookings beginning January 2005.



Wall text panel – How Did It Get This Way?

This new museum exhibit is designed for smaller Science Museums and Nature Centers.

The 1000 – 1500 square foot exhibit consists of 150 + Trilobite specimens covering 5 geological eras spanning over 300 million years of Earth's history. Trilobites that lived, thrived and became extinct millions of years before the age of DINOSAURS.

Actual trilobite specimens complete with charts, posters, artifacts, models, interactive units and wall texts provide an excellent look into the ancient world of the Paleozoic seas. Bring your visitors back in time to when the seas were teeming with life.



Portion of the Asaphus Trilobite exhibit

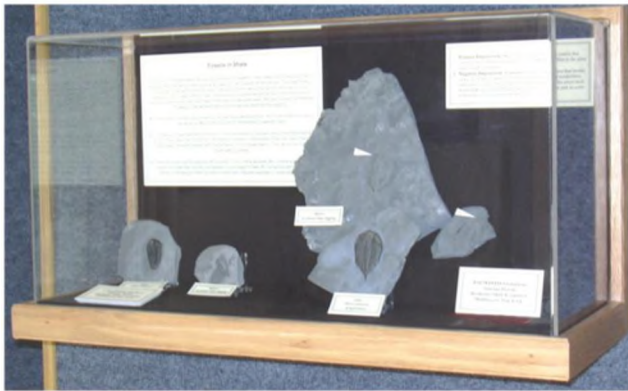
This exhibit presents these fine Paleozoic creatures in a way that tells a story of prehistoric life.

The collection of trilobites, assembled over 20 years, provides a unique snapshot of life in the ancient seas over 300 million years ago. This exhibit explores the life and death of these creatures once so plentiful during the

Cambrian Period that it was called The Age of Trilobites.

The exhibit contains components such as;

- Display - Trilobites of Caleb's Quarry offering a unique "snapshot" of a local area.
- Display - Trilobites of St. Petersburg, Russia
- Display – Trilobites of Oklahoma
- Display – Trilobites of the Czech Republic
- Freestanding display case - Hands on interactive – Rocks in which fossils can be found
- Wall text panel – How Did It get This Way ?
- Wall display case with actual Arthropod specimens - What is an Arthropod ?
- Wall text panel - What is a Trilobite?
- Wall display case – Trilobites in shale



Wall Display Case - Trilobites in Shale.



Display Case – Rocks in Which Fossils Can Be Found

- Wall display case – Trilobites in limestone
- Display - Trilobites—Before and After—The prep
- Display - Exotic Trilobites
- Wall text panel - Trilobites of the Barrandian
- Display - Tools of the Trade
- Wall display units - Photograph Gallery
- Wall text panel - Joachim Barrande “Father” of Modern Trilobite study.
- Display - Trilobite artifacts including jewelry, snuff bottle, and other artifacts.
- Wall display case - Life model of a trilobite
- Freestanding display case – Fossil Dig Site Model

Joseph has worked as the Science Education Manager for the Alden B. Dow Museum of Science and Art as well as Interim Director for the Hall of Ideas science museum. During his tenure at the museum, he has had experience as a museum curator, exhibit installer and exhibit designer. Two exhibits he has designed and assembled were the Mine to Market exhibit, showcasing the copper and iron of Michigan, as well as the Sky Designs exhibit dealing with an exhibition of R.C. Model Aircraft. He has assisted in the installation of the exhibits The Nature of Diamonds, Cosmic Questions: Our Place in Space and Time, Pearls: A Natural History

and other exhibits. He has had curatorial experience obtaining additional items for each exhibition including never before seen Diamond artifacts from the Czech Republic to Space Suits to exceptional mineral specimens and various artifacts from major collections. He is now moving on with this exceptional exhibit showcasing the magnificent ancient creature---the trilobite.

The Mid-America Paleontology Society (MAPS) was formed to promote popular interest in the subject of paleontology; to encourage the proper collecting, study, preparation, and display of fossil material; and to assist other individuals, groups, and institutions interested in the various aspects of paleontology. It is a non-profit society incorporated under the laws of the State of Iowa.